

Work Order ID 85702

85702

Page 1

June-13-12 4:05:44 PM

Item ID: D3319-1

Scrap.

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Wearplate

Start Date: 13/06/2012 Start Qty: 10.00

10

Cust Item ID:

Required Date: 27/06/2012 Req'd Qty: 10.00

10

Customer:

Reference:

Approvals:

Process Plan: ML 5

Date: 12/06/14

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D3319

C

100

0.00

100

FLOW WATER JET

Waterjet

Memo

0.00

FLOW CNC Waterjet

1-Cut as per Dwg D3319

1610.050

Dwg Rev: E

Prog Rev: E

2-Deburr if necessary

110

QC2- Inspect parts off machine FAI/FAIB

0.00

110

QC

Memo

0.00

Quality Control

120

QC8- Inspect parts - second check

0.00

120

QC

Memo

0.00

Quality Control

MAT NOT PULLED

182-6-17

182-6-17

Pho

x13 (91)

5/17/14

W/O: 85702		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D 3319-1 PAR #: _____ Fault Category: water Jet / Small PAB NCR: (Yes) No DQA: [Signature] Date: 12/08/17
 Resolution: SCRAP Disposition: SCRAP QA: N/C Closed: [Signature] Date: 12/08/20

NCR: 12-1707		WORK ORDER NON-CONFORMANCE (NCR) \$54.24						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
12/06/19	#102	Found Qty +1 with a cut in it from positioning on water jet. P.C. over the error when setting up sheet	S 057042 12/06/19	SCRAP + Destroy No Reclaim	Su 12-6-19	S 12/06/19	S 057042 12/06/19	S 12/06/19

NOTE: Date & initial all entries

Work Order ID 85702

85702

Page 2

June-13-12 4:05:44 PM

Item ID: D3319-1

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Wearplate

Stop

NS2

Start Date: 13/06/2012 Start Qty: 10.00

10

Cust Item ID:

Required Date: 27/06/2012 Req'd Qty: 10.00

10

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

140

140

Brake NC

NC BRAKE

0.00

Memo

0.00

Brake NC

1- Form using DT8326 & DT8261 as per Dwg D3319Rev: C
2- Form flat on press using DT8776 block

13

SA 12/06/25

150

150

QC

QC6- Inspect dimensions to drawing

0.00

Memo

0.00

Quality Control

13

12/08/25

160

160

Large Fab

Weld per dwg A/R Hardcoat steel Batch: _____

Large Fab

0.00

Memo

0.00

Large Fab

1- Layout weld location as per Dwg D3319 using jig D3319-1T3
2- Weld hard surface using DT8755 per QSI 004 and Dwg D3319 Rev: C

Qty	Part Number	Description	Batch
A/R	N/A	228/7560 Hardcoat Rod	

m/22359 → 228

(13)

ml

12-08-09

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 85702

85702

Page 3

June-13-12 4:05:44 PM

Item ID: D3319-1

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Wearplate

Start Date: 13/06/2012 Start Qty: 10.00

10

Cust Item ID:

Required Date: 27/06/2012 Req'd Qty: 10.00

10

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170	QC10- Inspect visual per QSI004- ground welds	0.00							
170						13	12.8.9		DAS 24
QC	Memo	0.00							
Quality Control									
180	QC5- Inspect part completeness to step on W/O	0.00							
180						13	12.8.9		DAS 24
QC	Memo	0.00							
Quality Control									
190	Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3	0.00							
190						13X			M/L
Powdercoat	Memo	0.00							12/08/13
Powder Coating	START TIME: 1:50								
	OVEN TEMPERATURE: 320 F								
	FINISH TIME: 2:20								

M121279

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 85702

June-13-12 4:05:44 PM

85702

Page 4

Item ID: D3319-1

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Wearplate

Start Date: 13/06/2012 Start Qty: 10.00

10

Cust Item ID:

Required Date: 27/06/2012 Req'd Qty: 10.00

10

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

200

QC3- Inspect Part Finish

0.00

200

QC

Memo

0.00

Quality Control

13 ✓ 12/08/13

210

Identify as per dwg & Stock Location 500

0.00

210

Packaging

Memo

0.00

Packaging

SL 12/08/14

220

QC21- Final Inspection - Work Order Release

0.00

220

QC

Memo

0.00

Quality Control

MLJ 12/08/13

MF 12-08-16

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

June-13-12 4:05:47 PM

Page 1

Work Order ID: 85702

85702

Parent Item: D3319-1

D3319-1

Parent Item Name: Wearplate

Start Date: 13/06/2012

Required Date: 27/06/2012

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP: B05.10.14Added step 9, dwg rev B KJ/EC
IPP Rev:C Now on Waterjet 06-10-26 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M1010S18GA		Purchased	No			100	sf	0.4855	0.628	6.610526	(14)	9	

M1010S18GA

1010/1025 SHEET .048

**

B12-6-17

Location

Loc Qty

Loc Code

MAT019

0.485474

116268

0.485474

117800

117800

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	85702
Description: Wearplate		Part Number:	D3319-1
Inspection Dwg: D3319	Rev: C	Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
4.98	+/-0.030	4.982	C		V R2	
1.600	+/-0.010	1.600	L		V	
2.660	+/-0.010	2.565	L		V	
3.190	+/-0.010	3.198	L		V	
3.563	+/-0.010	3.561	L		V	
4.71	+/-0.030	4.908	L		V	
0.60	+/-0.030	1.611	L		V	
10.576	+/-0.010	10.576	C		T R2	
11.942	+/-0.010	11.942	C		T	
18.09	+/-0.030	18.09	^		T	
Ø0.316 x 0.546	+0.006/-0.001 x +/-0.010	317 x 517	C		V	
Ø0.316 x 0.670	+0.006/-0.001 x +/-0.010	317 x 677	O		V	
Ø0.190	+0.005/-0.001	.195	L		V	
3.815	+/-0.010	3.817	L		V	
16.100	+/-0.010	16.100	^		T	

Measured by: R	Audited by: S	Preliminary Approval:
Date: 12-6-17	Date: 12/6/17	Date:

Rev	Date	Change	Revised by	Approved
A	07.05.31	New Issue	KJ/JLM	
B	12.05.15	Dimensions updated per Dwg Rev C	KJ	

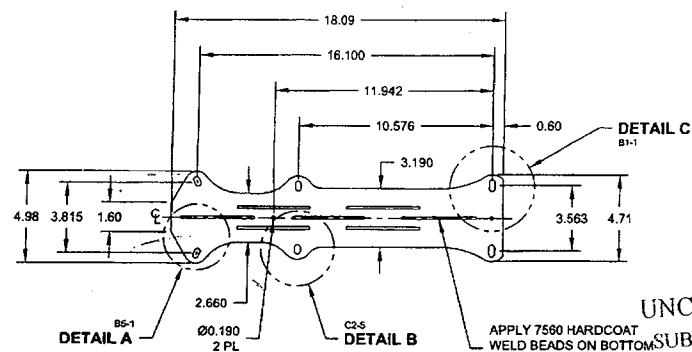
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng /- Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

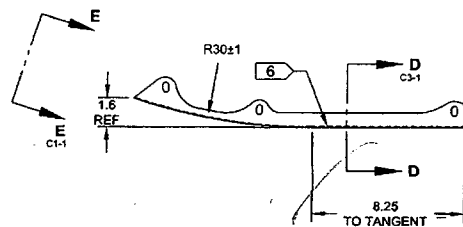
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

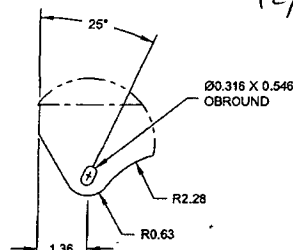
NOTE: Date & initial all entries



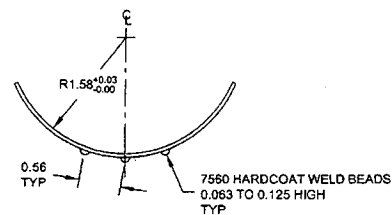
D3319-1F FLAT PATTERN



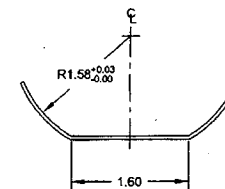
D3319-1 BENDING DETAIL
MAKE FROM D3319-1F



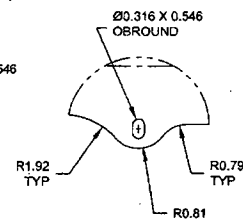
DETAIL A
SCALE 4X



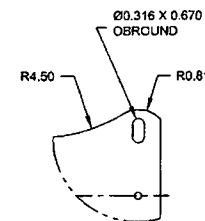
SECTION D-D
SCALE 4X



SECTION E-E
SCALE 4X



DETAIL B
SCALE 4X



DETAIL C
SCALE 4X

D3319-1 WEARPLATE

NOTES:

- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A1008 OR CSA G40-21, 38W/44W/50W/60W/70W SERIES STEEL 18 GAUGE (0.048 THICK) REF. DART SPEC. M1010-S18GA
- 2) FINISH: POWDER COAT GREY SANTEX (REF. 4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY ON INSIDE SURFACE WITH "TCCA-PDA, DART AEROSPACE LTD., P/N D3319-1 B/N BXXXXX, FOR PRODUCT ELIGIBILITY SEE PDA05-18" PER DART QSI 044 6.1 (FINE POINT PAINT MARKER)
- 7) WEIGHT: 0.90 lbs APPROX
- 8) SYMMETRY: ABOUT CENTERLINE

RELEASED
2012-03-16
PER ECN 12-546 02.03.16

C	UPDATE TO CURRENT STANDARDS IAW QSI 043; CLOSED AFT MOST HOLE ON -3/-5/-7 (REF DETAIL G). SEE NCR12-547.	MB	12.03.13
B	WIDEN HOLES, REDUCE WIDTH ON -3/-5/-7	PH	05.06.06
A	NEW ISSUE	PH	04.09.24
REV.	DESCRIPTION	BY	DATE
DESIGN	PH		
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	12.03.13		

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. D3319
TITLE WEARPLATE
REV. C
SHEET 1 OF 4
SCALE NTS

COPYRIGHT © 2004 BY DART AEROSPACE LTD
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE REPRODUCED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

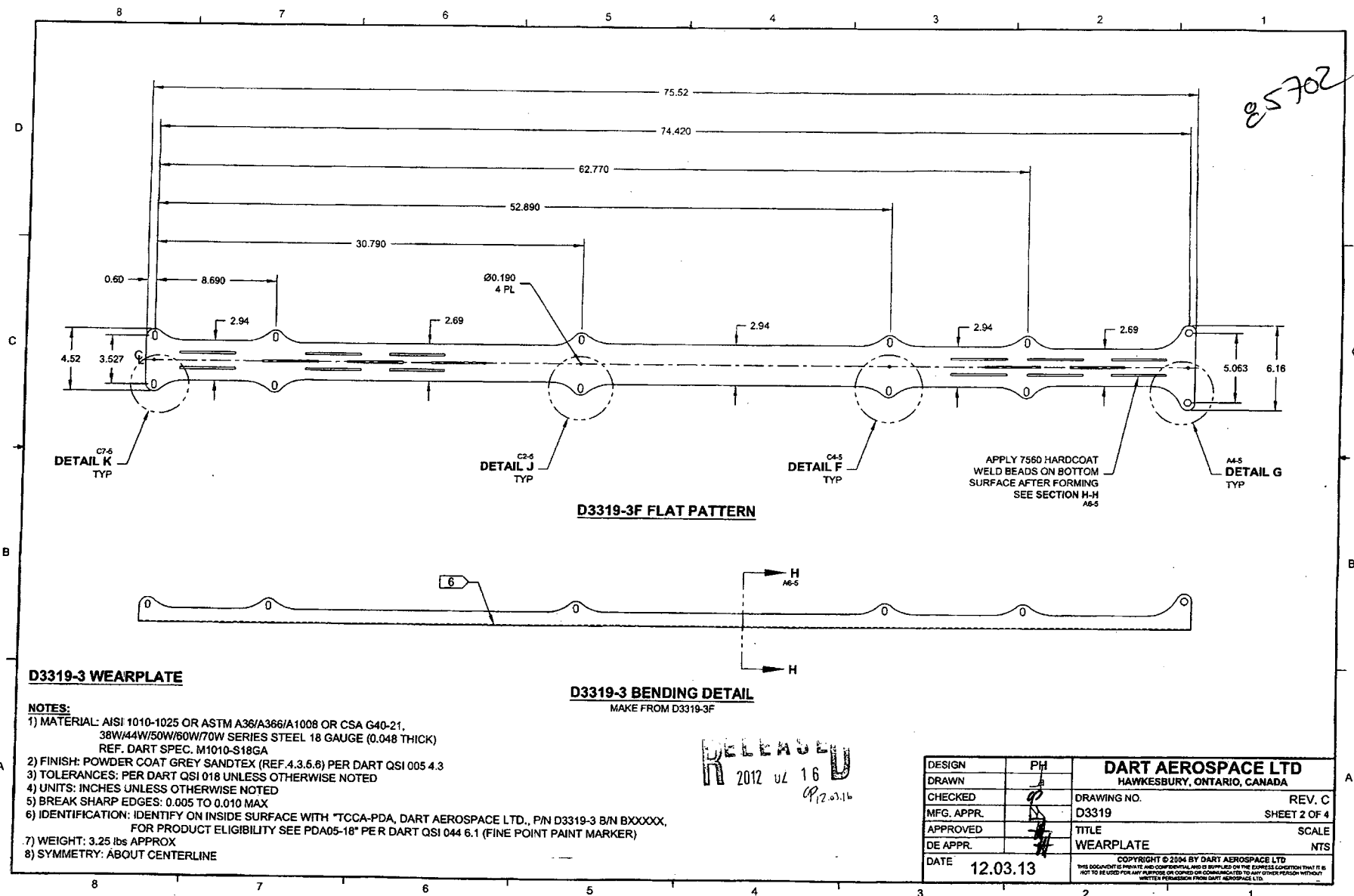
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



RELEASE
2012 JUL 16
CP 12.03.1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

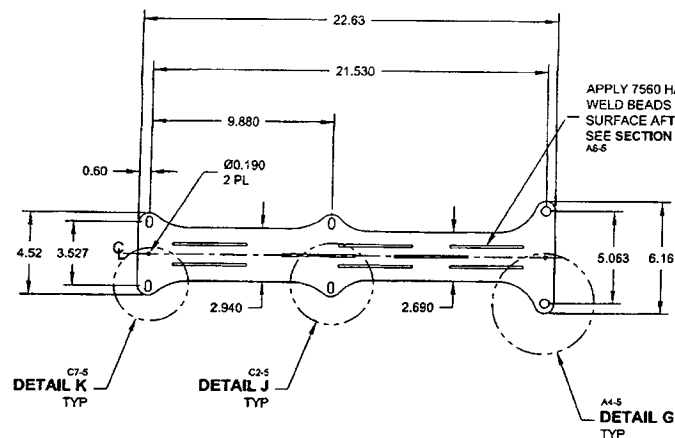
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

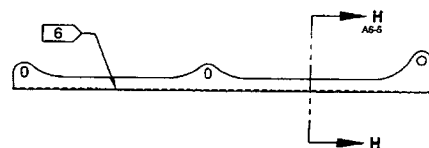
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

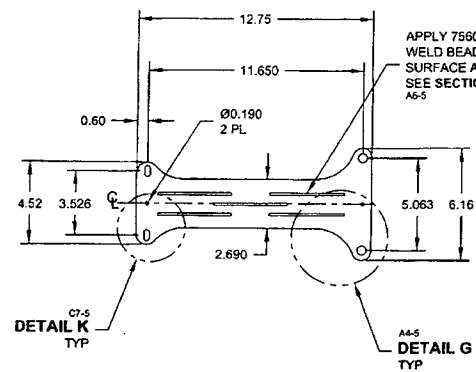
85702



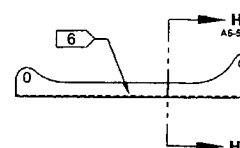
D3319-5F FLAT PATTERN



D3319-5 BENDING DETAIL
MAKE FROM D3319-5F



D3319-7F FLAT PATTERN



D3319-7 BENDING DETAIL
MAKE FROM D3319-7F

D3319-5/-7 WEARPLATE

NOTES:

- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A1008 OR CSA G40-21, 38W/44W/50W/60W/70W SERIES STEEL 18 GAUGE (0.048 THICK) REF. DART SPEC. M1010-S18GA
- 2) FINISH: POWDER COAT GREY SANTEX (REF.4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY ON INSIDE SURFACE WITH "TCCA-PDA, DART AEROSPACE LTD., P/N D3319-X B/N BXXXXX, FOR PRODUCT ELIGIBILITY SEE PDA05-18" PER DART QSI 046 6.1 (PERMANENT MARKER)
- 7) WEIGHT: D3319-5 = 1.05 lbs APPROX; D3319-7 = 0.60 lbs APPROX
- 8) SYMMETRY: ABOUT CENTERLINE

RELEASED
2012-02-16
CP2.0316

DESIGN	PH	DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. C
MFG. APPR.	<i>[Signature]</i>	D3319	SHEET 3 OF 4
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	WEARPLATE	NTS
DATE	12.03.13	COPYRIGHT © 2004 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

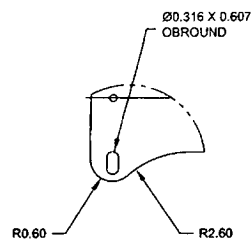
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

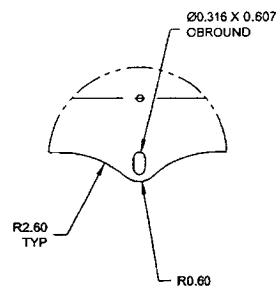
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

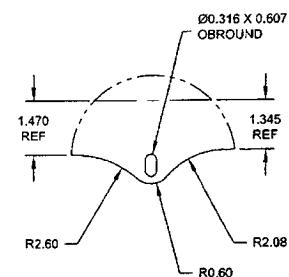
85702



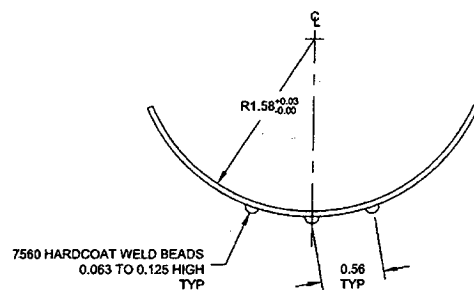
DETAIL K
SCALE 2X
B8-2
C4-3
C6-3



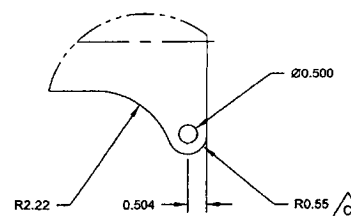
DETAIL F
SCALE 2X
B8-2



DETAIL J
SCALE 2X
B8-2
C7-3



SECTION H-H
SCALE 4X
B4-2
B3-3
B5-3



DETAIL G
SCALE 2X
B8-2
C2-3
C6-3
C

RELEASED
2012-02-16
P.2.03.16

DESIGN	PH	DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D3319	SHEET 4 OF 4
APPROVED		TITLE	SCALE
DE APPR.		WEARPLATE	NT
DATE	12.03.13	COPYRIGHT © 2004 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PROVIDED AS CONFIDENTIAL AND IS TO BE USED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries